

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

DALI WIRELESS, INC.,)	
)	
Plaintiff,)	
)	Case No. 2:22-cv-12
v.)	
)	JURY TRIAL DEMANDED
AT&T CORP., AT&T COMMUNICATIONS)	
LLC, AT&T MOBILITY, AT&T MOBILITY)	
II LLC, AT&T SERVICES INC., ERICSSON)	
INC., TELEFONAKTIEBOLAGET LM)	
ERICSSON, COMMScope HOLDING)	
COMPANY, INC., COMMScope INC., and)	
COMMScope TECHNOLOGIES LLC,)	
)	
Defendants.)	

**COMMScope’S ANSWER AND COUNTERCLAIMS TO
PLAINTIFF’S COMPLAINT**

Defendants CommScope Holding Company, Inc., CommScope Inc., and CommScope Technologies LLC hereby answer Dali Wireless, Inc.’s Complaint. As used herein, “CommScope” means, collectively, CommScope Holding Company, Inc., CommScope Inc., and CommScope Technologies LLC where Dali’s allegations are directed at them all. Except as expressly admitted below, CommScope denies Dali’s allegations. As a general matter, CommScope notes that Dali drafted many of its allegations in terms of a collective group of “CommScope” entities without specifying whether the allegations refer to one or more than one of the entities in the group (and if more than one, which ones). Therefore, unless stated otherwise, a statement that CommScope admits an allegation means that CommScope admits the allegation as to at least one of the entities, but not necessarily each individual entity because Dali did not clarify which specific individual entities the allegation refers to.

Nature of the Case

1. CommScope denies it has infringed any of the listed patents. Otherwise, admitted.
2. Denied.
3. This allegation is not directed at CommScope; therefore, no response is due. To the extent a response is required, CommScope lacks knowledge or information sufficient to form a belief about the truth of the allegation.
4. Denied.
5. This allegation is not directed at CommScope; therefore, no response is due. To the extent a response is required, CommScope lacks knowledge or information sufficient to form a belief about the truth of the allegation.
6. This allegation is not directed at CommScope; therefore, no response is due. To the extent a response is required, CommScope lacks knowledge or information sufficient to form a belief about the truth of the allegation.
7. Denied.
8. CommScope admits that Dali seeks damages, injunctive relief, and prejudgment and post-judgment interest. CommScope denies that any damages or relief is due any denies there is any infringement by CommScope.

Parties

9. CommScope admits that Dali is a Delaware corporation. Otherwise, CommScope lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in this paragraph.
10. Denied, except CommScope admits that Dali began in the power amplifier area.

11-25. These allegations are not directed at CommScope; therefore, no response is due. To the extent a response is required, CommScope lacks knowledge or information sufficient to form a belief about the truth of the allegations.

26. CommScope admits that CommScope Holding Company, Inc. is a corporation organized and existing under the laws of the State of Delaware, with a place of business in Hickory, North Carolina. CommScope admits that CommScope Holding Company, Inc. has a registered agent in Wilmington, DE. CommScope denies any remaining allegations in this paragraph.

27. CommScope admits that CommScope Technologies LLC is a limited liability company organized and existing under the laws of the State of Delaware with a principal place of business in Hickory, North Carolina. CommScope admits that CommScope Holding Company is the indirect parent company of CommScope Technologies LLC. CommScope denies any remaining allegations.

28. CommScope admits that CommScope, Inc. is a Delaware corporation and that its registered agent is United Agent Group Inc. with a listed address of 411 Silverside Road Tatnall building #104 Wilmington, DE 19810. CommScope admits that CommScope, Inc. is a subsidiary of CommScope Holding Company, Inc.

29. Denied.

30. CommScope admits that www.commscope.com advertises the accused products. CommScope denies that all the entities Dali defined within the term “CommScope” are doing business on an ongoing basis in this judicial district and have a regular and established place of business in this judicial district. CommScope denies any remaining allegations in this paragraph.

31. CommScope admits that specific CommScope entities (CommScope Holding Company, Inc. and CommScope Inc., not CommScope Technologies LLC) admitted that

“CommScope has a regular and established physical place of business in the Eastern District of Texas.” There was no admission by or as to CommScope Technologies LLC, which was not a named party in that complaint. For the purpose of this action and as of the time of this complaint, CommScope admits a CommScope entity maintains a regular and established place of business at 2601 Telecom Parkway, Richardson, Texas 75082, which is a physical place. CommScope denies any remaining allegations in this paragraph.

32. CommScope admits that AT&T is a customer and that there are locations operating under the brand name “AT&T” in Texas. CommScope denies any remaining allegations.

Jurisdiction and Venue

33. Admitted.

34. Admitted.

35. CommScope lacks knowledge or information sufficient to form a belief about the truth of this allegation.

36. Denied.

37. CommScope lacks knowledge or information sufficient to form a belief about the truth of this allegation.

38. CommScope lacks knowledge or information sufficient to form a belief about the truth of this allegation.

39. CommScope admits, for the purpose of the present action, that this Court has personal jurisdiction over CommScope for the purpose of the present action. CommScope denies any remaining allegations in this paragraph.

40. Denied.

41. Denied.

42. This allegation covers “all” defendants. CommScope lacks knowledge or information about “all” the defendants sufficient to form a belief about the truth of this allegation. CommScope specifically denies it has committed acts of patent infringement.

The Patents-In-Suit

43. CommScope lacks knowledge or information sufficient to form a belief about the truth of whether the ‘338 patent is properly assigned to Dali. Otherwise, admitted.

44. CommScope lacks knowledge or information sufficient to form a belief about the truth of the allegations in this paragraph.

45. Denied.

46. CommScope lacks knowledge or information sufficient to form a belief about the truth of whether the ‘358 patent is properly assigned to Dali. Otherwise, admitted.

47. CommScope lacks knowledge or information sufficient to form a belief about the truth of the allegations in this paragraph.

48. Denied.

49. CommScope lacks knowledge or information sufficient to form a belief about the truth of whether the ‘232 patent is properly assigned to Dali. Otherwise, admitted.

50. CommScope lacks knowledge or information sufficient to form a belief about the truth of the allegations in this paragraph.

51. Denied.

52. CommScope lacks knowledge or information sufficient to form a belief about the truth of whether the ‘499 patent is properly assigned to Dali. Otherwise, admitted.

53. CommScope lacks knowledge or information sufficient to form a belief about the truth of the allegations in this paragraph.

54. Denied.

FIRST CAUSE OF ACTION
(PATENT INFRINGEMENT UNDER 35 U.S.C. § 271 OF THE '358 PATENT
BY COMMScope AND AT&T)

55. CommScope incorporates its responses to the foregoing paragraphs.

56. Denied.

57. Admitted, except to the numbering, which Dali added (and the claim does not provide).

58. Denied.

59. Denied, except that CommScope admits that the OneCell system provides a small cell solution, is unique, may connect multiple OneCell radio points, and OneCell radio points transmit and receive radio frequency signals and certain radio points may support up to four frequency bands. CommScope denies the OneCell system meets the preamble.

60. Denied.

61. Denied.

62. Denied.

63. Denied.

64. Denied.

65. Denied.

66. Denied.

67. Denied.

68. Denied.

69. Denied.

70. Denied.

- 71. Denied.
- 72. Denied.
- 73. Denied.
- 74. Denied.
- 75. Denied.
- 76. Denied.
- 77. Denied.
- 78. Denied.
- 79. Denied.
- 80. Denied.
- 81. Denied.
- 82. Denied.

SECOND CAUSE OF ACTION
(PATENT INFRINGEMENT UNDER 35 U.S.C. § 271 OF THE '338 PATENT
BY AT&T AND ERICSSON)

83-110. These allegations are not directed at CommScope; therefore, no response is due. To the extent a response is required, CommScope lacks knowledge or information sufficient to form a belief about the truth of the allegations. CommScope specifically denies that the '338 patent is valid or enforceable. CommScope specifically denies any implication that CommScope infringes the '338 patent; CommScope has already been found not to infringe this patent.

THIRD CAUSE OF ACTION
(PATENT INFRINGEMENT UNDER 35 U.S.C. § 271 OF THE '232 PATENT
BY COMMScope AND COMMScope)

- 111. CommScope incorporates its responses to the foregoing paragraphs.
- 112. Denied.

113. Admitted, except to the numbering, which Dali added (and the claim does not provide).

114. Denied.

115. Admitted, except CommScope denies that CommScope's LTE and 5G Networks perform a method "comprising" the steps listed in Claim 12 of the '232 patent.

116. CommScope admits that cited website contains the cited quotes for the Era system (the quote is not stated for the ION-E). CommScope denies the remaining allegations in this paragraph.

117. Denied.

118. Denied, except as stated in the following. CommScope admits that according to publicly available documents the CPRI digital donor (CDD) card is an optional component for the Era system that, when used, receives CPRI digital signals from a compatible operator baseband unit. CommScope denies the remaining allegations.

119. Denied.

120. Denied, except as stated in the following. CommScope admits that, according to publicly available documents, the user of the ION-E and Era systems may create different signal sets. CommScope denies the remaining allegations.

121. Denied, except as stated in the following. CommScope admits that, according to publicly available documents, the user of the ION-E and Era systems may create different signal sets. CommScope denies the remaining allegations.

122. Denied.

123. Denied.

124. Denied, except as stated in the following. CommScope admits that the cited marketing material describes that a user may remap sectors if sectorization changes are needed. CommScope denies the remaining allegations.

125. Denied.

126. Denied.

127. Denied.

128. Denied.

129. Denied.

130. Denied.

131. Denied.

132. Denied.

133. Denied.

FOURTH CAUSE OF ACTION
(PATENT INFRINGEMENT UNDER 35 U.S.C. § 271 OF THE '232 PATENT
BY AT&T AND ERICSSON)

134-156. These allegations are not directed at CommScope; therefore, no response is due. To the extent a response is required, CommScope lacks knowledge or information sufficient to form a belief about the truth of the allegations.

FIFTH CAUSE OF ACTION
(PATENT INFRINGEMENT UNDER 35 U.S.C. § 271 OF THE '499 PATENT
BY COMMScope AND ERICSSON)

157-188. These allegations are not directed at CommScope; therefore, no response is due. To the extent a response is required, CommScope lacks knowledge or information sufficient to form a belief about the truth of the allegations.

SIXTH CAUSE OF ACTION
(PATENT INFRINGEMENT UNDER 35 U.S.C. § 271 OF THE '499 PATENT
BY AT&T AND COMMScope)

189. CommScope incorporates its responses to the foregoing paragraphs.

190. Denied.

191. Admitted, except to the numbering, which Dali added (and the claim does not provide).

192. Denied.

193. Admitted.

194. Denied.

195. It is unclear what Dali is alleging to be the “baseband unit”; thus, CommScope lacks knowledge or information sufficient to form a belief about the truth allegation in this paragraph. Further, CommScope’s LTE and 5G “networks” contain many different systems and arrangements; thus, the allegation must be denied on its face.

196. It is unclear what Dali is alleging to be the “signal sources”; thus, CommScope lacks knowledge or information sufficient to form a belief about the truth allegation in this paragraph. Further, CommScope’s LTE and 5G “networks” contain many different systems and arrangements; thus, the allegation must be denied on its face.

197. It is unclear what Dali is alleging to be the “signal sources”; thus, CommScope lacks knowledge or information sufficient to form a belief about the truth allegation in this paragraph. Further, CommScope’s LTE and 5G “networks” contain many different systems and arrangements; thus, the allegation must be denied on its face.

198. While CommScope admits that the ION-E and Era systems may include a range of remote access points that include the carrier access point (CAP) and universal access point (UAP),

CommScope's LTE and 5G "networks" contain many different systems and arrangements. Therefore, CommScope denies this allegation as stated.

199. While CommScope admits that the ION-E and Era systems may include a range of remote access points that include the carrier access point (CAP) and universal access point (UAP), CommScope's LTE and 5G "networks" contain many different systems and arrangements. Therefore, CommScope denies this allegation as stated.

200. It is unclear what Dali is alleging to be the "baseband unit" or "signal sources"; thus, CommScope lacks knowledge or information sufficient to form a belief about the truth allegation in this paragraph. Further, CommScope's LTE and 5G "networks" contain many different systems and arrangements; thus, the allegation must be denied on its face.

201. It is unclear what Dali is alleging to be the "baseband unit" or "signal sources"; thus, CommScope lacks knowledge or information sufficient to form a belief about the truth allegation in this paragraph. Further, CommScope's LTE and 5G "networks" contain many different systems and arrangements; thus, the allegation must be denied on its face.

202. It is unclear what Dali is alleging to be the "baseband unit", "signal source," or "radio resources"; thus, CommScope lacks knowledge or information sufficient to form a belief about the truth allegation in this paragraph. Further, CommScope's LTE and 5G "networks" contain many different systems and arrangements; thus, the allegation must be denied on its face.

203. It is unclear what Dali is alleging to be the "baseband unit", "signal source," or "radio resources"; thus, CommScope lacks knowledge or information sufficient to form a belief about the truth allegation in this paragraph. Further, CommScope's LTE and 5G "networks" contain many different systems and arrangements; thus, the allegation must be denied on its face.

204. It is unclear what Dali is alleging to be the “baseband unit” or “radio resources”; thus, CommScope lacks knowledge or information sufficient to form a belief about the truth allegation in this paragraph. Further, CommScope’s LTE and 5G “networks” contain many different systems and arrangements; thus, the allegation must be denied on its face.

205. It is unclear what Dali is alleging to be the “baseband unit” or “radio resources”; thus, CommScope lacks knowledge or information sufficient to form a belief about the truth allegation in this paragraph. Further, CommScope’s LTE and 5G “networks” contain many different systems and arrangements; thus, the allegation must be denied on its face.

206. It is unclear what Dali is alleging to be the “baseband unit” or “radio resources”; thus, CommScope lacks knowledge or information sufficient to form a belief about the truth allegation in this paragraph except as stated below. CommScope admits that, according to the cited marketing materials, the user of the ION-E and Era systems may create different signal sets and shows that a user may remap sectors if sectorization changes are needed. Further, CommScope’s LTE and 5G “networks” contain many different systems and arrangements; thus, the allegation must be denied on its face.

207. Denied.

208. Denied.

209. Denied.

210. Denied.

211. It is unclear what Dali is alleging to be the “baseband unit” thus, CommScope lacks knowledge or information sufficient to form a belief about the truth allegation in this paragraph. Further, CommScope’s LTE and 5G “networks” contain many different systems and arrangements; thus, the allegation must be denied on its face.

212. It is unclear what Dali is alleging to be the “baseband unit” thus, CommScope lacks knowledge or information sufficient to form a belief about the truth allegation in this paragraph. Further, CommScope’s LTE and 5G “networks” contain many different systems and arrangements; thus, the allegation must be denied on its face.

213. Denied.

214. Denied.

215. Denied.

216. Denied.

217. Denied.

218. Denied

219. Denied.

220. Denied.

Prayer for Relief

CommScope denies that Dali is entitled to any relief whatsoever, either as prayed for or otherwise.

Defenses

CommScope asserts the following defenses against the patent-in-suit. CommScope reserves the right to allege additional defenses as they become known through discovery or otherwise.

First Defense

CommScope does not infringe the claims of the patents-in-suit directly or indirectly.

Second Defense

One or more of the claims of the patents-in-suit are invalid for failure to satisfy one or more of the provisions of Title 35 of the United States Code, including, but not limited to in 35 U.S.C. §§ 101, 102, 103, and 112.

Third Defense

Upon information and belief, the relief sought by Dali is barred or limited in whole or in part by the failure to mark as required by 35 U.S.C. § 287.

Fourth Defense

Dali's claims are barred in whole or in part under the doctrine of prosecution history / file wrapper estoppel.

Fifth Defense

Dali's claims against CommScope are barred in whole or in part by the equitable doctrines of waiver, estoppel, laches and/or unclean hands.

Sixth Defense

Dali's claim fail to state facts sufficient to state claims against CommScope for which relief can be granted.

Seventh Defense

As set forth in the counterclaims below, Dali's '232 and '499 patents are unenforceable because of inequitable conduct before the Patent Office by Dali during prosecution of the applications that led to these patents.

Eighth Defense

Dali's claims are barred in whole or in part by claim preclusion (aka res judicata) and/or issue preclusion (aka collateral estoppel).

Ninth Defense

Dali's claims are barred in whole or in part by the *Kessler* doctrine.

Tenth Defense

Dali's claims are barred in whole or in part by legal estoppel and/or implied license.

Eleventh Defense
(Ensnarement, Vitiating, and/or Public Dedication)

Dali's claims, including to the extent Dali alleges infringement under the Doctrine of Equivalents, are barred under one or more of the following doctrines: ensnarement, vitiating, and/or public dedication.

Twelfth Defense
(No Injunctive Relief)

Dali's claim for injunctive relief is barred because there exists an adequate remedy at law and Dali's claims otherwise fail to meet the requirements for such relief

Thirteenth Defense
(No Willfulness)

CommScope has not willfully infringed, and is not willfully infringing, any claim of the Asserted Patents against CommScope.

Fourteenth Defense
(Sales to the U.S. Government)

To the extent certain equipment accused of infringing the Patents-in-Suit are used by and/or manufactured for the United States Government and/or public good, Dali's claims may not be pursued in this Court and are subject to other limitations pursuant to 28 U.S.C. § 1498.

CommScope's Counterclaims

For counterclaims, CommScope Holding Company, Inc., CommScope, Inc., and CommScope Technologies LLC (collectively, "CommScope") alleges as follows:

Nature of the Action

1. These counterclaims are for declaratory judgments of non-infringement, invalidity, and unenforceability regarding for U.S. Patent Nos. (1) 9,197,358 ('358 patent) and (2) 11,026,232 ('232 patent), (3) 10,334,499 ('499 patent) (collectively, "patents-in-suit").

Parties

2. CommScope Technologies LLC is a Delaware company, headquartered in Hickory, North Carolina.

3. CommScope Holding Company, Inc. is a Delaware company headquartered in North Carolina.

4. CommScope, Inc. is a Delaware company.

5. Dali Wireless, Inc. ("Dali") is a Delaware company. Upon information and belief, Dali conducts business in this district and has a place of business in Burnaby, British Columbia, Canada

Jurisdiction and Venue

6. This Court has subject matter jurisdiction over these counterclaims under 28 U.S.C. §§ 1331, 1338(a), 28 U.S.C. §§ 2201, 2202, and 35 U.S.C. §§ 271, et seq.

7. This Court has personal jurisdiction over Dali.

8. Venue is proper in this district.

First Counterclaim

Declaratory Judgment of Non-Infringement of the '358 Patent

9. CommScope incorporates by reference the prior allegations.

10. Dali alleges that CommScope infringes the ‘358 patent.

11. CommScope does not infringe and has not infringed any valid claim of the ‘358 patent under any theory of infringement.

12. Accordingly, there exists an actual and justiciable controversy as to whether CommScope infringes any valid claim of the ‘358 patent.

13. CommScope requests a judicial determination and declaration that they do not infringe any valid claim of the ‘358 Patent.

Second Counterclaim
Declaratory Judgment of Invalidity of the ‘358 Patent

14. CommScope incorporates by reference the prior allegations.

15. CommScope asserts that claims of the ‘358 Patent are invalid for failure to satisfy one or more of the provisions of Title 35 of the United States Code, including, but not limited to in 35 U.S.C. §§ 101, 102, 103, and 112.

16. Accordingly, there exists an actual and justiciable controversy as to whether the claims of the ‘358 patent are valid.

17. CommScope requests a judicial determination and declaration that the claims of the ‘358 patent are invalid.

Third Counterclaim
Declaratory Judgment of Non-Infringement of the ‘232 Patent

18. CommScope incorporates by reference the prior allegations.

19. Dali alleges that CommScope infringes the ‘232 patent.

20. CommScope does not infringe and has not infringed any valid claim of the ‘232 patent under any theory of infringement.

21. Accordingly, there exists an actual and justiciable controversy as to whether CommScope infringes any valid claim of the '232 patent.

22. CommScope requests a judicial determination and declaration that they do not infringe any valid claim of the '232 Patent.

Fourth Counterclaim
Declaratory Judgment of Invalidity of the '232 Patent

23. CommScope incorporates by reference the prior allegations.

24. CommScope asserts that claims of the '232 Patent are invalid for failure to satisfy one or more of the provisions of Title 35 of the United States Code, including, but not limited to in 35 U.S.C. §§ 101, 102, 103, and 112.

25. Accordingly, there exists an actual and justiciable controversy as to whether the claims of the '232 patent are valid.

26. CommScope requests a judicial determination and declaration that the claims of the '232 patent are invalid.

Fifth Counterclaim
Declaratory Judgment of Unenforceability of the '232 Patent

27. CommScope incorporates by reference the prior allegations.

28. As set forth below, Mr. Lee deliberately withheld material information from the Patent Office during the prosecution of the '232 patent, including the PTAB institution decision for the '178 patent, and did so with a specific intent to deceive the Patent Office. Mr. Lee breached his duty of candor and committed inequitable conduct during the prosecution of the '232 Patent.

29. CommScope requests a judicial determination and declaration that the '232 patent is unenforceable.

The “who” requirement

30. This pleading alleges that Mr. Albert Lee committed inequitable conduct during the prosecution of the ‘232 Patent.

31. Mr. Lee is deeply involved with Dali’s patents. Mr. Lee has overall responsibility for Dali’s patent prosecution strategy. He hires and works with Dali’s outside patent prosecution counsel. Mr. Lee is also a named inventor on the ‘232 patent.

32. Mr. Lee had a duty of candor to the Patent Office during the prosecution of Dali’s ‘232 patent.

33. Upon information and belief, Mr. Lee is also Dali’s General Counsel, CEO, and Chairman.

The “what” and “where” requirements

34. This pleading alleges that Mr. Albert Lee withheld material information about a co-pending *inter parties* review (IPR) proceeding challenging the validity Dali’s U.S. Patent No. 10,080,178 (the ‘178 patent). The subject matter of Dali’s ‘178 patent closely overlaps with the subject matter of Dali’s present ‘232 patent that Dali is now seeking to enforce. Mr. Lee is an inventor on both the ‘178 and ‘232 patents.

35. Mr. Lee did not disclose to the examiner of the ‘232 patent the existence of the co-pending IPR for the ‘178 patent and did not disclose the filings and analysis from the co-pending IPR.

36. Of particular relevance, Mr. Lee did not disclose to the examiner of the ‘232 patent the Institution Decision from the ‘178 IPR that that found a reasonable likelihood that the subject matter of every claim in the ‘178 patent was invalid, which was highly material to the ‘232 patent because the subject matter of the patents closely overlapped. As set forth below, Mr. Lee recognized the Institution Decision was highly material to patentability. He personally represented

that Dali would be cancelling every claim in the ‘178 patent due to the institution decision, which would result in an adverse judgment against Dali and patent owner estoppel and/or issue preclusion. Mr. Lee also did not disclose to the examiner of the ‘232 patent that there would be an adverse decision against Dali from the IPR, which would further extend to all patentably indistinct claims by virtue of patent owner estoppel and/or issue preclusion.

A. The overlap between the ‘232 patent and ‘178 patent

37. This section explains the overlap between Dali’s ‘232 patent and Dali’s ‘178 patent. Mr. Lee is an inventor on both the ‘232 patent and the ‘178 patent.

38. The ‘232 patent and the ‘178 patent are about the same technology called a “distributed antenna system” (DAS). Both patents, for example, identically state: “The present invention generally relates to wireless communication systems employing Distributed Antenna Systems (DAS) as part of a distributed wireless network.” *Compare* Ex. 1 at 1:28-30 with Ex. 2 at 1:18-20.

39. The disclosure in the ‘232 patent and the ‘178 patent substantially overlap.

As one example, the specification in both patents describes “the present invention” with the following description:

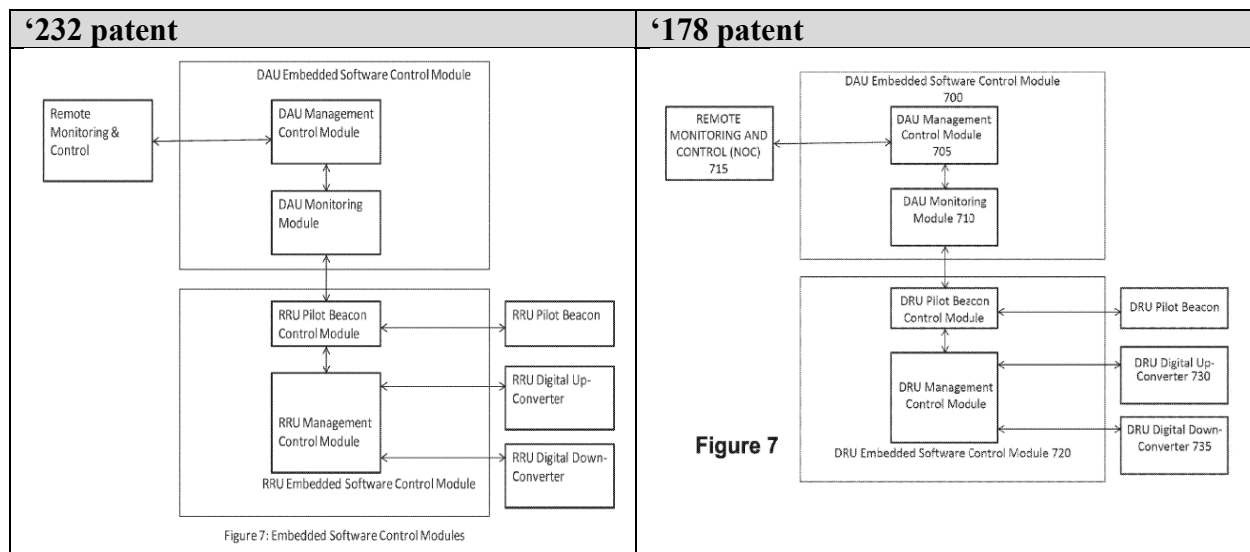
‘232 patent	‘178 patent
<u>The present invention is</u> a novel Reconfigurable Distributed Antenna System that provides a high degree of flexibility to manage, control, re-configure, enhance and facilitate the radio resource efficiency, usage and overall performance of the distributed wireless network.	<u>The present invention is</u> a novel Reconfigurable Distributed Antenna System that provides a high degree of flexibility to manage, control, re-configure, enhance and facilitate the radio resource efficiency, usage and overall performance of the distributed wireless network.

Compare Ex. 1 at 6:4-8 with Ex. 2 at 4:24-28. As another example, the description of “the present disclosure” in the Abstract substantially overlaps:

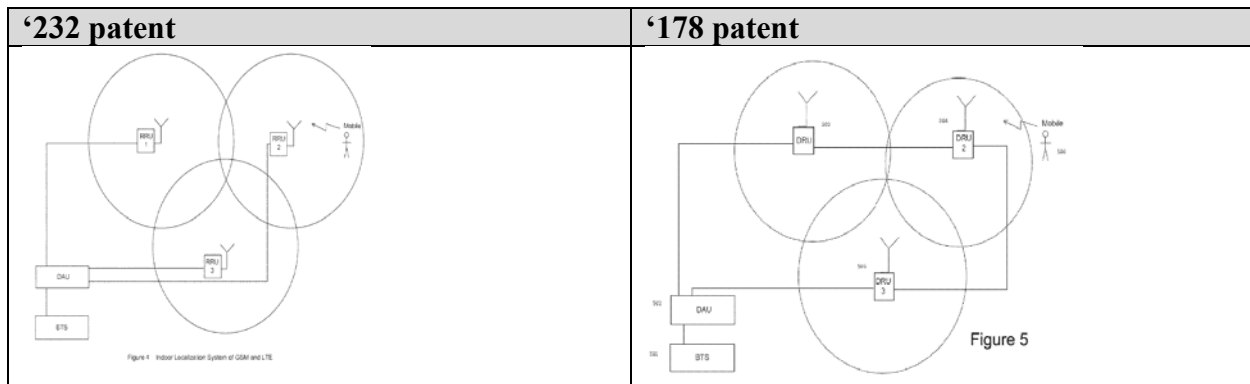
'232 patent	'178 patent
<p><i>The present disclosure</i> is a novel utility of a software defined radio (SDR) based Distributed Antenna System (DAS) that is field reconfigurable and support multi-modulation schemes (modulation-independent), multi-carriers, multi-frequency bands and multi-channels. The present disclosure enables a high degree of flexibility to manage, control, enhance, facilitate the usage and performance of a distributed wireless network such as flexible simulcast, automatic traffic load-balancing, network and radio resource optimization, network calibration, autonomous/assisted commissioning, carrier pooling, automatic frequency selection, frequency carrier placement, traffic monitoring, traffic tagging, pilot beacon, etc. (Abstract)</p>	<p><i>The present disclosure</i> is a novel utility of a software defined radio (SDR) based Distributed Antenna System (DAS) that is field reconfigurable and support multi-modulation schemes (modulation-independent), multi-carriers, multi-frequency bands and multi-channels. The present invention enables a high degree of flexibility to manage, control, enhance, facilitate the usage and performance of a distributed wireless network such as Flexible Simulcast, automatic traffic load-balancing, network and radio resource optimization, network calibration, autonomous/assisted commissioning, carrier pooling, automatic frequency selection, frequency carrier placement, traffic monitoring, traffic tagging, pilot beacon, etc. As a result, a DAS in accordance with the present invention can increase the efficiency and traffic capacity of the operators' wireless network. (Abstract)</p>

Compare Ex. 1 at Abstract with Ex. 2 at Abstract.

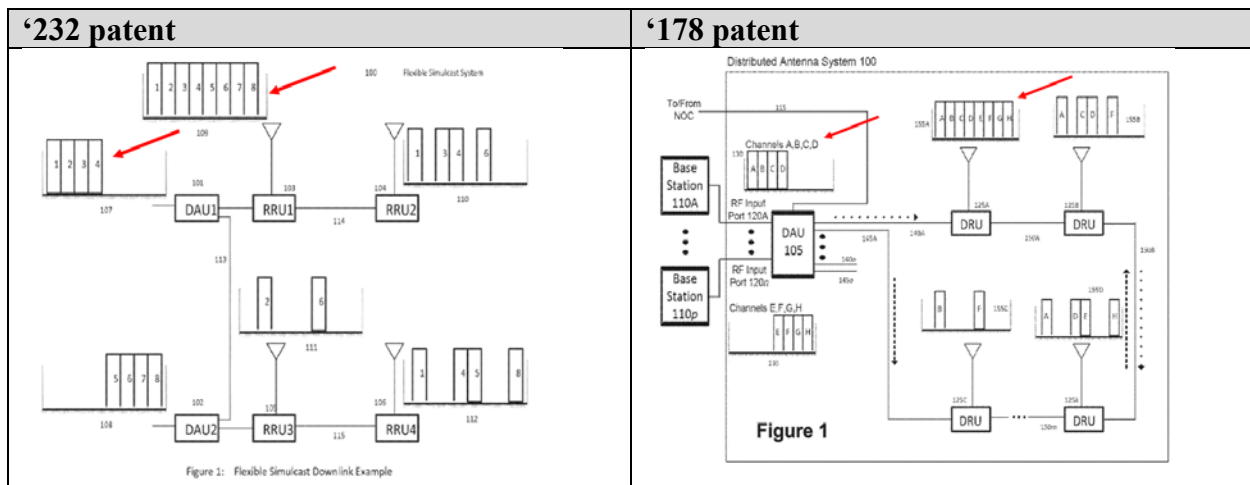
40. The figures in the '232 patent and the '178 patent substantially overlap. As one example, Figure 7 in both patents substantially overlap and is nearly identical:



Compare Ex. 1 at Fig. 7 with Ex. 2 at Fig. 7. As another example, the following figures substantially overlap:



Compare Ex. 1 at Fig. 4 with Ex. 2 at Fig. 5. As another example, Figure 1 in each patent overlaps. Both figures illustrate transporting signals (labeled either with numerals or letters) from the DAU to the remote units:



Compare Ex. 1 at Fig. 1 with Ex. 2 at Fig. 1.

41. The claims of the '232 patent and the '178 patent substantially overlap and recite many of the substantially same claim elements. For example, claim 1 of the '232 patent substantially overlaps with claim 1 of the '178 patent and its dependent claims

42. Claim 1 of the '232 patent recites the following (with element numbers added):

1. A wireless system comprising:

[A] one or more central nodes that receive a number of a plurality of radio resources from an operator hub that enables wireless communications and that provides the plurality of radio resources to a radio access network using the Common Public Radio Interface (CPRI) protocol; and

[B] a plurality of wireless access points that is coupled to the one or more central nodes and distributes one or more wireless signals to one or more wireless subscribers, the plurality of wireless access points including at least a first access point and a second access point,

[C] wherein one or more central nodes assigns a first subset of the number of the plurality of radio resources to the first access point and a second subset of the number of the plurality of radio resources to the second access point, the first subset including more radio resources than the second subset, and

[D] wherein, in response to a change in need of a number of wireless subscribers coupled to the second access point and which of the second subset is loaded beyond a threshold, the one or more central nodes assign additional radio resources of the plurality of radio resources to the second access point.

43. Element [A] of claim 1 of the ‘232 patent substantially overlaps with Claim 1 of the ‘178 patent. Element [A] is about “one or more central nodes.” Similarly, claim 1 of the ‘178 patent is about a “host unit.” The ‘232 patent does not explain any difference between a host unit and a central node. In fact, neither the ‘232 specification nor the ‘178 specification use the phrases “host unit” or “central node.”

44. Element [A] of claim 1 of the ‘232 patent also recites language about “a number of a plurality of radio resources from an operator hub.” Similarly, claim 1 of the ‘178 patent recites “a plurality of downlink channel signals from the at least one signal source.” A downlink channel signal is an example of a radio resource. Element [A] of claim 1 of the ‘232 patent also recites language about “wireless communications.” Similarly, claim 1 of the ‘178 patent specifies that the host unit is for use in the transport of “wireless communications.” Element [A] of claim 1 of the ‘232 patent also recites language about “Common Public Radio Interface (CPRI) protocol.”

Similarly, the ‘178 patent’s dependent claim 9 (from claim 1) recites “...the Common Public Radio Interface (CPRI) standard.”

45. Element [B] of claim 1 of the ‘232 patent substantially overlaps with Claim 1 of the ‘178 patent. Element [B] is about “a plurality of wireless access points.” Similarly, claim 1 of the ‘178 patent recites language about “a plurality of remote units.” The ‘232 specification never uses the phrase “access point” or “wireless access point.” The ‘232 patent does not teach there is any difference between a wireless access point and a remote unit. The specification discloses that the remote radio units are wirelessly communicating with mobile end users. The remote radio units are the only examples given of a wireless access point. Claims 10 and 21 of the ‘178 patent, as further examples, also recite “a plurality of remote units, including at least a first remote unit and a second remote unit.”

46. Element [B] of claim 1 of the ‘232 patent also recites that the plurality of wireless access points is “coupled to the one or more central nodes.” Similarly, claim 1 of the ‘178 patent recites that the host unit (an example of a central node) comprises “at least one interface to communicatively couple the host unit to a plurality of remote units.”

47. Element [C] of claim 1 of the ‘232 patent substantially overlaps Claim 1 of the ‘178 patent. Element [C] describes a “first subset” and “a second subset.” Similarly, claim 1 of the ‘178 patent recites language about “a first set of downlink channel signals” and “a second set of downlink channel signals.” Claim 21 of the ‘178 patent, as a further example, similarly recites language about a “a first portion” and “a second portion.”

48. Element [C] of claim 1 of the ‘232 patent also recites language differentiating the first subset and second set. Specifically, Element [C] of claim 1 of the ‘232 patent recites “the first subset including more radio resources than the second subset.” Similarly, claim 1 of the ‘178

patent recites language differentiating the first set and second set. Specifically, claim 1 of the ‘178 patent recites “wherein a number of downlink channel signals in the first set of downlink channel signals is different from a number of downlink channel signals in the second set of downlink channel signals.” For example, the concept of a “different” “number” of downlink channel signals in the first set (as recited in the ‘178 patent) substantially overlaps with the concept of including “more” radio resources in the first subset (as recited in ‘232 patent). A readily apparent example of the “number” being “different” is where the first set includes “more” than the second set.

49. Element [D] of claim 1 of the ‘232 patent substantially overlaps with Claim 1 of the ‘178 patent and its dependent claims. Element [D] recites language about “in response to a change in need of a number of wireless subscribers.” Similarly, the ‘178 patent’s dependent claim 5 (from claim 1) recites language about “based on a change in subscriber needs...” The concept of “...need of a number of wireless subscribers” (as recited in the ‘232 patent) substantially overlaps with the concept of “...a change in subscriber needs” (as recited in the ‘178 patent).

50. Element [D] of claim 1 of the ‘232 patent also recites language about “in response to ... loaded beyond a threshold, the one or more central nodes assign additional radio resources of the plurality of radio resources to the second access point.” Similarly, the ‘178 patent’s dependent claim 4 (from claim 1) recites language about “...based on load balancing, to dynamically change from (a) sending the digital representations of the first set of downlink channel signals to the first remote unit to (b) sending the digital representations of the second set of downlink channel signals to the first remote unit.” The concept of “...loaded beyond a threshold” (as recited in the ‘232 patent) substantially overlaps with the concept of “...load balancing” (as recited in the ‘178 patent).

B. The timeline for the prosecution of ‘232 patent and the IPR for the ‘178 patent

51. This section explains the overlap of the prosecution of Dali's '232 patent and the IPR against Dali '178 patent.

52. The prosecution of the '232 patent spanned from July 30, 2020 until June 1, 2021.

53. On August 14, 2020, approximately two weeks after Dali filed the '232 patent application, CommScope filed a petition for IPR alleging that the subject matter of every claim in the '178 patent was invalid. *See* Ex. 3. CommScope included a supporting declaration from a technical expert.

54. On September 3, 2020, Mr. Lee signed a power of attorney authorizing Dali's counsel to participate in the IPR of the '178 patent. *See* Ex. 4.

55. On March 12, 2021, the PTAB issued a decision granting institution of the IPR challenging the validity of the claims of the '178 patent ("Institution Decision"). The Institution Decision is attached as Exhibit 5. The Patent Office found a reasonable likelihood that the subject matter of every claim in the '178 patent was invalid.

56. On March 19, 2021, Mr. Lee represented that Dali intended to cancel all the claims in the '178 patent in light of the PTAB's decision to institute IPR. Specifically, Mr. Lee personally signed a covenant not to sue petitioner that included the following representation:

WHEREAS, in light of the PTAB's decision to institute IPRs of the '314 Patent and '178 Patent, Dali will now, in accordance with PTAB regulation 37 CFR § 42.121, cancel all currently issued claims (as of the Covenant Date) in the '314 Patent and '178 Patent and institute proceedings before the PTAB to replace those claims with new claims; and

Exhibit 6 at 1. The full covenant not to sue is attached as Exhibit 6 and referred to herein as "Dali's Covenant."

57. Under Patent Office regulations, cancellation of all claims after institution of institution of *inter partes* review is construed as a request for adverse judgment. 37 C.F.R. § 42.73(b) states:

(b) ***Request for adverse judgment.*** A party may request judgment against itself at any time during a proceeding. Actions construed to be a request for adverse judgment include:

- (1) Disclaimer of the involved application or patent;
- (2) Cancellation or disclaimer of a claim such that the party has no remaining claim in the trial;
- [...]

37 C.F.R. § 42.73(b)

58. On June 1, 2021, consistent with Mr. Lee's earlier representations, Dali's counsel formally moved to cancel all of the claims in the '178 patent. See Exhibit 7.

59. The Patent Office entered adverse judgment against Dali and cancelled every claim in the '178 patent. Ex. 8.

C. Mr. Lee's did not disclose the '178 IPR to the examiner of the '232 patent

60. Mr. Lee did not disclose to the examiner of the '232 patent the existence of the IPR proceeding for the '178 patent.

61. Mr. Lee did not disclose to the examiner of the '232 patent the petition for IPR of the '178 patent or the expert declaration supporting the petition.

62. Mr. Lee did not disclose the Institution Decision for the '178 patent to the examiner of the '232 patent.

63. Mr. Lee did not disclose Dali's Covenant to the examiner of the '232 patent.

64. Mr. Lee did not disclose to the examiner of the '232 patent that adverse judgment on invalidity would be requested by Dali and entered against Dali on the subject matter set forth in each of the claims of the '178 patent.

65. Upon information and belief, Mr. Lee did not instruct Dali's prosecuting attorney to disclose the Institution Decision to the examiner of the '232 patent.

66. Upon information and belief, Mr. Lee did not instruct Dali's prosecuting attorney to disclose to the examiner of the '232 patent that Dali would be cancelling every claim in the '178 patent "in light of the" PTAB's decision to institute IPR of the '178 patent.

67. Upon information and belief, Mr. Lee did not instruct Dali's prosecuting attorney to disclose Dali's Covenant to the examiner of the '232 patent.

68. Upon information and belief, Mr. Lee did not instruct Dali's prosecuting attorney to disclose to the examiner of the '232 patent that adverse judgment on invalidity would be entered against Dali on the subject matter set forth in each of the claim of the '178 patent.

D. The '178 IPR is but-for material to the '232 patent

69. This section explains the materiality of the '178 IPR to Dali's '232 patent. The '178 IPR is material to the patentability of the claims of the '232 patent, including for example Claim 1 of the '232 patent, for multiple reasons.

70. **First**, due to the close overlap in subject matter between '178 patent and '232 patent, decisions from the Patent Office about the patentability of the claims of the '178 patent are material to the patentability of claims of the '232 patent.

71. **Second**, the IPR proceeding and the Institution Decision were material because they analyzed claims and disclosure that overlapped with the alleged point of novelty of the '232 patent.

72. A critical limitation in the in the prosecution history of the '232 patent related to a concept called "load," and more specifically, being "loaded" beyond a threshold. The Examiner and applicant discussed the fact that the prior art disclosed all the other limitations. Specifically, on November 5, 2020, the examiner had an interview with the applicant. *See* Ex. 9. They discussed a potential reference that "teaches all of the allowable subject matter of claims 1, 12,

and 20.” *Id.* at 1. The applicant agreed to amend the claims “to overcome the prior art.” *Id.* On November 20, 2020, the Examiner issued a Notice of Allowability. Ex. 10. The Notice of Allowability contained an examiner amendment, which the applicant had authorized. Ex. 10 at 2. The examiner amendment added the underlined text below about being “loaded” beyond a threshold:

1. (Currently Amended) A wireless system comprising:

one or more central nodes that receive a number of a plurality of radio resources from an operator hub that enables wireless communications and that provides the plurality of radio resources to a radio access network using the Common Public Radio Interface (CPRI) protocol; and

a plurality of wireless access points that is coupled to the one or more central nodes and distributes one or more wireless signals to one or more wireless subscribers, the plurality of wireless access points including at least a first access point and a second access point, wherein one or more central nodes assigns a first subset of the

number of the plurality of radio resources to the first access point and a second subset of the number of the plurality of radio resources to the second access point, the first subset including more radio resources than the second subset, and

wherein, in response to a change in need of a number of wireless subscribers coupled to the second access point and which of the second subset is loaded beyond a threshold, the one or more central nodes assign additional radio resources of the plurality of radio resources to the second access point.

Ex. 10 at 2-3. In the examiner's statement of reasons for allowance, the examiner explained that the prior art taught all the limitations except the limitation as amended by the examiner. Ex. 10 at 5-6. For example, for claim 1, the examiner explained that the prior art taught all the other limitations:

4. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, the prior art of record, specifically Hunter, JR. et al. (US Patent Application Publication #2011/0241425) teaches a wireless system comprising:

one or more central nodes (See Fig. 1, master unit 12) that receive a number of a plurality of radio resources from an operator hub (base station 14) (Paragraphs 0032-0035);

a plurality of wireless access points (remote unit 16) that is coupled to the one or more central nodes and distributes one or more wireless signals to one or more wireless subscribers 20, the plurality of wireless access points including at least a first access point and a second access point (Paragraphs 0032-0035).

Akman et al. (US 2010/0075678) teaches Central nodes that enables wireless communications and that provides the plurality of radio resources to a radio access network using the Common Public Radio Interface (CPRI) protocol (Paragraphs 0004 and 0022).

Heinz-Dieter (EP 1924109) teaches wherein one or more central nodes assigns a first subset of the number of the plurality of radio resources to the first access point and a second subset of the number of the plurality of radio resources to the second access point, the first subset including more radio resources than the second subset (See abstract; Paragraphs [0016-0020, especially Paragraphs [0020]).

Ex. 10 at 4-5. The examiner concluded, however, that the prior art did not teach the amended limitation about "load," specifically, being "loaded" beyond a threshold:

However, as a whole, none of the prior art cited alone or in combination provides the motivation to teach wherein, in response to a change in need of a number of wireless subscribers coupled to the second access point and which of the second subset is loaded beyond a threshold, the one or more central nodes assign additional radio resources of the plurality of radio resources to the second access point.

Ex. 10 at 5. Twice more in the prosecution, the examiner concluded that the prior art did not teach the amended limitation about “load,” specifically, being “loaded” beyond a threshold. Ex. 10 at 9-22.

73. The ‘178 IPR involved analysis of claim limitations about “load” that closely overlapped with the concept discussed in the prosecution of the ‘232 patent. Specifically, the PTAB examined two dependent claims about “load”:

At issue in the ‘178 IPR
4. The host unit of claim 1, wherein the host unit is configurable, based on <u>load balancing</u> , to dynamically change from (a) sending the digital representations of the first set of downlink channel signals to the first remote unit to (b) sending the digital representations of the second set of downlink channel signals to the first remote unit.
17. The method of claim 15, wherein the host unit dynamically changes based on <u>load balancing</u> from (a) sending the digital representations of the first set of downlink channel signals to the first remote unit to (b) sending the digital representations of the second set of downlink channel signals to the first remote unit.

See Ex. 1 at Claims 4, 17; Ex. 3 at 27-29; Ex. 5 at 31; see also Ex. 1 at claim 5.

74. In the Institution Decision that Mr. Lee failed to disclose, the PTAB found that the prior art disclosed these limitations about “load.” Ex. 5 at 31. The PTAB’s Institution Decision credited Pages 22-25 of CommScope’s IPR petition, which in turn identified Paragraph 41-44 of the Wu reference. *Id.* Paragraph 41-44 of the Wu reference teach to measure “load” and use a “threshold” in the same context as the ‘232 patent. Ex. 11 at [0041]-[0044]; *see also* Ex. 11 at [0045].

75. Therefore, the IPR proceeding and the Institution Decision were material because they analyzed claims and disclosure that overlapped with the alleged point of novelty of the ‘232 patent. The IPR proceeding and the Institution Decision were also material because they refuted or were inconsistent with the discussion Dali had with the examiner about the patentability of the claims of the ‘232 patent. 37 C.F.R. § 1.56 explains that information is material when it refutes or is inconsistent with a position the applicant takes in asserting patentability:

(b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and

(1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or

(2) It refutes, or is inconsistent with, a position the applicant takes in:

(i) Opposing an argument of unpatentability relied on by the Office, or

(ii) Asserting an argument of patentability.

37 C.F.R. § 1.56(b). In the Interview discussed above, Dali indicated that the amendment (that added load and threshold) would distinguish the prior art. That was incorrect, and the IPR proceeding and the Institution Decision refuted or was inconsistent with Dali’s position.

76. **Third**, the Institution Decision contained analysis that would have alerted the examiner in the ‘232 patent that the subject matter claimed in the ‘232 patent was unpatentable. As shown above, for example, the limitations recited in Claim 1 of the ‘232 patent are the substantially same or patentability indistinct from the limitations in the claims involved in the Institution Decision.

77. **Fourth**, Mr. Lee’s representation that Dali would cancel the claims of the ‘178 patent was material to the claims of the ‘232 patent. The information that the patent owner was conceding the claims of the ‘178 patent that recited the system is “configurable, based on load” are unpatentable in light of the prior art was directly relevant to and contradicted patent owner’s

assertion and the examiner's misunderstanding in the '232 patent prosecution that the limitation based on "load" added late in the '232 patent prosecution would distinguish the art.

The "when" requirement

78. This section explains that Mr. Lee knew about the undisclosed material information during the prosecution of the '232 patent and had an opportunity to disclose it.

79. Mr. Lee was aware of the IPR for the '178 patent during the prosecution of the '232 patent.

80. At least as early as September 3, 2020, which is during the prosecution of the '232 patent, Mr. Lee was aware of the IPR for the '178 patent. Mr. Lee signed a power of attorney authorizing Dali's counsel to participate in the IPR on September 3, 2020. Ex. 4.

81. At least as early as March 19, 2021, which is during the prosecution of the '232 patent, Mr. Lee was aware of the Institution Decision and Dali's Covenant. Mr. Lee signed Dali's Covenant on March 19, 2021, and Dali's Covenant specifically refers to the Institution Decision. Ex. 6.

82. On March 23, 2021, which was less than one week after Mr. Lee signed Dali's Covenant discussing the Institution Decision, Mr. Lee had the opportunity to disclose the information about the '178 IPR. Specifically, on March 23, 2021, Mr. Lee's prosecution counsel submitted an information disclosure statement (IDS) with prior art to the examiner of the '232 patent and a request for continued examination (RCE). Ex. 12. Mr. Lee did not disclose the Institution Decision on the IDS or take any further step to disclose the '178 IPR to the examiner of the '232 patent. *See id.*

The "why" and "how" requirements

83. This section explains how the examiner of the ‘232 patent would have used the information Mr. Lee withheld and why the information was but-for material.

84. If the examiner had been aware of the PTAB’s Institution Decision, the examiner would not have allowed the claims of the ‘232 patent, including at least claim 1. A reasonable examiner would have found the PTAB’s Institution Decision “but for” material to the patentability of the claims of the ‘232 patent, including for example claim 1.

85. With the benefit of the PTAB’s Institution Decision, for example, a reasonable examiner would have realized that the critical limitation added late in the prosecution history for the ‘232 patent was taught in the prior art. As mentioned above, the limitation added in the prosecution history was about “load” and more specifically, being “loaded” beyond a threshold. Reading the PTAB’s institution decision, the examiner would have seen the PTAB’s conclusion that the petitioner made a sufficient showing that the ‘178 patent claims with similar limitations about “load” were invalid. The examiner would have seen the PTAB’s conclusion that the prior art, for example, the Wu reference, anticipated the ‘178 claims with similar limitations about “load.” With the benefit of the PTAB’s Institution Decision, the examiner of the ‘232 patent further would have known the specific section of the prior art to examine. As a first example, the PTAB’s Institution Decision credited Pages 22-25 of CommScope’s IPR petition that identified Paragraph 41-44 of the Wu reference, which would have directed the examiner to specific teachings in Wu about “load” and using a “threshold” in the same context as the ‘232 patent. As a second example, the PTAB’s Institution Decision credited Pages 78-83 of CommScope’s IPR petition that identified specific teachings in the Oh reference (e.g., Ex. 18 at 9:44-48) and specific expert testimony (Ex. 17 ¶¶ 339-363), which would have directed the examiner to specific explanations and illustrations of the prior art teaching to assign additional radio resources to a

remote unit based on load measurements in the same context as the '232 patent. Thus, with the benefit of the PTAB's Institution Decision, the examiner would have realized a critical limitation added in the prosecution history was taught in the prior art, and the examiner would have rejected the pending claims, including claim 1.

86. With the benefit of the PTAB's Institution Decision, a reasonable examiner would also have realized the subject matter of claims of the '232 patent was not patentable for a second reason. The limitations recited in independent claims of the '232 patent are substantially the same or patentability indistinct from the limitations in the claims involved in the Institution Decision. As shown above, for example, that the limitations recited in independent Claim 1 of the '232 patent are substantially the same or patentability indistinct from the limitations in the claims involved in the Institution Decision. Therefore, reading the PTAB's Institution Decision, the examiner would have realized that the limitations in the independent claims of the '232 patent, including Claim 1, were not patentable because they merely recite substantially the same or patentably indistinct variation of limitations already found by the PTAB's Institution Decision to be unpatentable and present in the prior art, including specifically the Wu reference. Reading the PTAB's Institution Decision, a reasonable examiner would have likewise concluded the independent claims of the '232 patent, including at least claim 1, were unpatentable because, for example, Wu discloses each and every element recited in the claims.

87. The PTAB's Institution Decision is not cumulative of the other information of record in the '232 patent, including the underlying references. First, the PTAB's Institution Decision contained conclusions and analysis related to a critical limitation in the prosecution history that the examiner mistakenly believed was lacking from the information of record. Second, the decision is an opinion from the Patent Office itself about invalidity. The decision explains, for

example: “On this record and taking into account Patent Owner’s arguments, Petitioner has shown a reasonable likelihood of demonstrating that claims 10 and 15 are anticipated by Wu” and “On this record and taking into account Patent Owner’s prior arguments, Petitioner has shown a reasonable likelihood of demonstrating that claim 1 is anticipated by Wu.” Ex. 5 at 28-29. The underlying references contain no such opinion. Further, the decision carries additional weight compared to the references. It is the judgment of three administrative patent judges. Third, the decision identified (and credited) analysis not present in the underlying references. *See, e.g.*, Ex. 5 at 23-28. For example, the decision identified and credited the legal, technical, and expert analysis present at pages 27-29 and 78-80 of the petition. These sections identified by the PTAB and the underlying expert testimony called out the key aspects of the references, explained how a POSITA would interpret them, gave explanatory examples, and even illustrated the teachings. *See, e.g.*, Ex. 3 at 27-29, 78-80 (identifying specific relevant expert testimony and teachings in the Wu and Oh references); Ex. 17 ¶¶67-69 (highlighting with various emphasis key teachings of the Wu reference); ¶¶ 339-363 (highlighting with various emphasis key teachings of the Oh reference and providing examples, illustrations, and explanations). These explanations, illustrations, and expert testimony are not present in the underlying references. Fourth, the decision clarified that certain distinctions over the underlying references were not persuasive. *See, e.g.*, Ex. 5 at 23-28. Fifth, the decision is easier and more intuitive to apply than the underlying references. The underlying references do not necessarily use the verbatim language of the claim elements, and the decision provides that link between specific elements in the references and corresponding specific claim elements.

88. In addition, the information contained in Dali’s Covenant that in light of the Institution Decision, Dali was canceling the claims of the ‘178 patent, conceding the claims of the

‘178 patent were unpatentable and requesting adverse judgment by the PTAB, would have been used by the examiner to contradict Dali’s position in the ‘232 patent prosecution regarding the limitation the examiner had found was critical to allowance regarding the “load” threshold. The examiner would have continued to reject, for example, at least claim 1 based on the prior art if Mr. Lee had disclosed this information. If the examiner had known Dali’s position that the limitations regarding load were not patentably distinct in the ‘178 patent, then the examiner would also have found the load limitations added during prosecution of the ‘232 patent are also not patentably distinct.

Intent to Deceive

A. Mr. Lee knew about the IPR proceeding, including specifically the Institution Decision and Dali’s Covenant

89. Mr. Lee was aware IPR for the ‘178 patent during the prosecution of the ‘232 patent.

90. At least as early as September 3, 2020, which is during the prosecution of the ‘232 patent, Mr. Lee was aware of the IPR for the ‘178 patent. Mr. Lee signed a power of attorney authorizing Dali’s counsel to participate in IPR on September 3, 2020. See Ex. 4.

91. At least as early as March 19, 2021, which is during the prosecution of the ‘232 patent, Mr. Lee was aware of the Institution Decision and Dali’s Covenant. Mr. Lee signed the Dali’s Covenant on March 19, 2021, and Dali’s Covenant specifically refers to the Institution Decision. See Ex. 6.

B. Mr. Lee knew the IPR proceeding, including specifically the Institution Decision and Dali’s Covenant, were material

92. As set forth below, the single most reasonable inference is that Mr. Lee knew the Institution Decision was material to the prosecution of the ‘232 patent.

93. **First**, Mr. Lee had specific experience with the materiality of IPR institution decisions to the prosecution of patents with overlapping subject matter. In 2020, Mr. Lee was alleged to have committed inequitable conduct for failing to disclose an IPR institution decision during the prosecution of an overlapping patent. *See* Ex. 13 ¶¶74-102; Ex. 14 ¶¶91-124.. Mr. Lee was specifically informed via the pleading that IPR institution decisions are material to the prosecution of patents with overlapping subject matter. This prior pleading involved the same two patent families as this case. In this way, Mr. Lee received a clear warning, and by ignoring a warning, Mr. Lee’s conduct was deliberate.

94. **Second**, Mr. Lee knew the underlying basis for why the IPR Institution Decision was material. Mr. Lee knew that the Institution Decision meant that the subject matter of the claims of the ‘178 patent was likely unpatentable and the claims invalid. Indeed, Mr. Lee himself recognized that “in light of the PTAB’s decision to institute IPRs” Dali would “cancel all currently issued claims” in the ‘178 patent. *See* Ex. 6 at 1. Mr. Lee also knew the subject matter of the ‘178 patent overlapped with the subject matter of the ‘232 patent. Mr. Lee is an inventor on both patents, and Mr. Lee has personally reviewed the underlying disclosure in both patents many times. Further, by virtue of the fact he has overall responsibility for Dali’s patent prosecution strategy, Mr. Lee would have known that the subject matter claimed in the ‘178 and ‘232 patents overlapped.

95. **Third**, the file history for the ‘232 patent family demonstrates knowledge that IPR decisions are material and should be disclosed. In the parent to the ‘232 patent, for example, Dali disclosed a different IPR decision. *See* Ex. 15 at “Other Publications.” On information and belief, by virtue of his roles supervising patent prosecution counsel and as CEO, Mr. Lee would have known about this decision.

96. **Fourth**, the file history for the ‘232 patent family demonstrates knowledge that decisions about the patentability of the claims in the ‘178 patent are material and should be disclosed during prosecution of the ‘232 patent. In the parent to the ‘232 patent, for example, Dali disclosed office actions about the patentability of the claims in the ‘178 patent. *See* Ex. 15 at “Other Publications.” On information and belief, by virtue of his role supervising patent prosecution counsel and as CEO, Mr. Lee would have known about this decision.

97. **Fifth**, Mr. Lee has familiarity with the rules for materiality. Mr. Lee is a registered patent agent. Further, Dali has admitted that Mr. Lee “understood the meaning of the duty of candor and good faith that is due to the USPTO during the prosecution of patent applications.” Ex. 16 at 10. The MPEP explains that the duty of duty of candor includes the duty to disclose information from IPR proceedings:

2001.06(c) Information From Related Litigation and/or Trial Proceedings [R-08.2017]

The America Invents Act (AIA) added trial proceedings to be conducted by the Patent Trial and Appeal Board (PTAB) including *inter partes review proceedings*, post-grant review, covered business method reviews, and derivation. *In many instances, these trial proceedings yield information that may be considered material to pending related patent applications.* Where the subject matter for which a patent is being sought is or has been involved in litigation and/or a trial proceeding, or the litigation and/or trial proceeding yields information material to currently pending applications, the existence of such litigation and *any other material information arising therefrom must be brought to the attention of the examiner or other appropriate official at the U.S. Patent and Trademark Office.* In particular, material information that is raised in trial proceedings that is relevant to related applications undergoing examination *should be submitted on an Information Disclosure Statement for the examiner’s consideration.*

2001.06(b) Information Relating to or From Copending United States Patent Applications [R-08.2017]

The individuals covered by 37 CFR 1.56 have a duty to bring to the attention of the examiner, or other Office official involved with the examination of a particular application, *information within their knowledge as to other copending United States applications which are “material to patentability” of the application in question.* This may include providing the identification of pending or abandoned applications filed by at least one of the inventors or assigned to the same assignee as the current application that

disclose similar subject matter that are not otherwise identified in the current application.

....

For example, if a particular inventor has different applications pending which disclose similar subject matter but claim patentably indistinct inventions, the existence of other applications must be disclosed to the examiner of each of the involved applications.

MPEP 2001.06.

98. Therefore, considering Dali has admitted Mr. Lee understood the meaning of the duty of candor and considering Mr. Lee is a registered patent agent, Mr. Lee would have known that adverse IPR decisions are material to pending patent applications on closely overlapping subject matter and should be disclosed.

C. Mr. Lee knew he had an obligation to disclose material information

99. Dali has admitted that Mr. Lee “understood the meaning of the duty of candor and good faith that is due to the USPTO during the prosecution of patent applications.” Ex. 16 at 10.

100. The duty of candor and good faith includes the duty to disclose “all information” known to that individual to be material to patentability as defined in this section. 37 C.F.R. § 1.56 provides:

Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section.

37 C.F.R. § 1.56.

101. Therefore, considering Dali has admitted Mr. Lee understood the meaning of the duty of candor, Mr. Lee knew he had a duty to disclose “all information” that was material to the patentability of the claims of the ‘232 patent.

D. Mr. Lee intended to deceive the Patent Office

102. The single most reasonable inference from the above facts is that Mr. Lee intended to deceive the Patent Office.

103. As set forth above, Mr. Lee (a) knew about the IPR Institution Decision and Dali's Covenant stating Dali's intent to cancel the '178 patent claims, (b) knew the IPR Institution Decision and Dali's decision to cancel the claims of the '178 patent were material, and (c) knew he had a duty to disclose all material information, including the IPR Institution Decision and Dali's decision to cancel the claims of the '178 patent, and (d) knew that failure to disclose known material information is a breach of the duty of candor to the Patent Office.

104. Despite his full knowledge, Mr. Lee did not disclose the IPR Institution Decision or Dali's decision to request adverse judgment by canceling the claims of the '178 patent. The single most reasonable inference from Mr. Lee's full knowledge of the facts is that Mr. Lee intended to deceive the Patent Office.

105. There are a number of facts that further show the inference of deceptive intent is particularly reasonable.

106. **First**, the inference of deceptive intent is particularly reasonable because Mr. Lee was specifically warned that failure to disclose IPR institution under these same facts was inequitable conduct. In 2020, Mr. Lee was alleged to have committed inequitable conduct for failing to disclose an IPR institution decision during the prosecution of an overlapping patent. *See* Answer and Counterclaims, ECF 53 ¶¶ 75-102 in *Dali Wireless, Inc. v. CommScope*, No. 1:19-cv-00952-MN (D. Del.). Therefore, considering Mr. Lee received a clear warning and ignored the warning in this case, the single most reasonable inference is Mr. Lee's conduct was deliberate.

107. **Second**, the inference of deceptive intent is particularly reasonable because the prosecution history evidences that Mr. Lee altered his behavior to hide the IPR Institution Decision. In the parent to the '232 patent, Dali disclosed office actions about the patentability of the claims in the '178 patent. *See* Ex. 15 at "Other Publications." Mr. Lee, however, deviated

from the practice and pattern and withheld the IPR Institution Decision with negative information about the patentability of the claims in the '178 patent. By deviating from prior practice, Mr. Lee's conduct evidences selective disclosure and a desire to hide negative information.

108. **Third**, Mr. Lee had an easy and obvious opportunity to disclose the IPR Institution Decision, but Mr. Lee chose not to disclose it. As set forth above, Mr. Lee was aware of the Institution Decision as of March 19, 2021 when he signed a covenant not to sue that specifically disclosed the significant impact of the Institution Decision. Less than one week later, on March 23, 2021, while the knowledge was fresh in Mr. Lee's mind, Mr. Lee had the opportunity to disclose this information. On March 23, 2021, Mr. Lee's prosecution counsel submitted an information disclosure statement (IDS) with prior art to the examiner of the '232 patent and a request for continued examination (RCE). See Ex. 12. Yet, inexplicably, Mr. Lee withheld from this IDS and RCE the Institution Decision that was still fresh in his mind. See Ex. 12 (not mentioning the Institution Decision).

109. **Fourth**, the inference of deceptive intent is particularly reasonable because Mr. Lee is a sophisticated and experienced actor who is intimately familiar with the expectation to disclose material information to the Patent Office. Mr. Lee (a) is an attorney, registered patent agent, and inventor and (b) has supervised the prosecution of well-over fifty patent applications. As such, he is a sophisticated and experienced actor. He is also intimately familiar with the expectation to disclose material information to the Patent Office. As a registered patent agent, Mr. Lee has studied the duty of candor. As an inventor and supervisor of patent prosecution, he has had frequent experience with the duty of candor. And, Dali has specifically admitted that Mr. Lee "understood the meaning of the duty of candor and good faith that is due to the USPTO during the prosecution of patent applications." Ex. 16 at 10.

110. **Fifth**, the inference of deceptive intent is also corroborated by Mr. Lee's long history of willful misconduct. A jury recently determined that Dali willfully infringed multiple digital DAS patents owned by CommScope. Mr. Lee appeared as Dali's representative and testified at this trial. Mr. Lee publicly testified that "every single vendor" Dali interacted with raised the issue of ADC's (later TE's) patent portfolio on digital DAS technology. Despite these warning, Dali under the direction of Mr. Lee willfully infringed the patents. Mr. Lee's conduct demonstrates both a lack of regard for the patent system and a willingness to engage in willful misconduct.

111. **Sixth**, inference of deceptive intent is also corroborated by the fact that Mr. Lee hid previous allegations of inequitable conduct from the examiner. When the subject matter for which a patent is being sought is or has been involved in litigation (as is the case here), the MPEP clearly sets forth that "examples" of material information that should be disclosed specifically includes allegations of "fraud," "inequitable conduct," and "violation of duty of disclosure":

2001.06(c) Information From Related Litigation and/or Trial Proceedings [R-08.2017]

The America Invents Act (AIA) added trial proceedings to be conducted by the Patent Trial and Appeal Board (PTAB) including inter partes review proceedings, post-grant review, covered business method reviews, and derivation. In many instances, these trial proceedings yield information that may be considered material to pending related patent applications. *Where the subject matter for which a patent is being sought is or has been involved in litigation and/or a trial proceeding*, or the litigation and/or trial proceeding yields information material to currently pending applications, the existence of such litigation and *any other material information arising therefrom must be brought to the attention of the examiner or other appropriate official at the U.S. Patent and Trademark Office*. In particular, material information that is raised in trial proceedings that is relevant to related applications undergoing examination *should be submitted on an Information Disclosure Statement* for the examiner's consideration. *Examples of such material information include* evidence of possible prior public use or sales, questions of inventorship, prior art, *allegations of "fraud," "inequitable conduct," and "violation of duty of disclosure."* Another example of such material information is any assertion that is made during litigation and/or trial proceeding which is contradictory to assertions made to the examiner. *Environ Prods., Inc. v. Total Containment, Inc.*, 43 USPQ2d 1288, 1291 (E.D. Pa. 1997). Such information might arise during litigation and/or trial proceeding in,

for example, pleadings, admissions, discovery including interrogatories, depositions, and other documents and testimony.

MPEP 2001.06(c). Contrary to his duty of candor, Mr. Lee hid from the examiner that there were allegations of inequitable conduct and a violation of a duty of disclosure made against himself in the co-pending district court case involving the same subject matter as the ‘232 patent. *See* Answer and Counterclaims, ECF 53 ¶¶ 75-102 in *Dali Wireless, Inc. v. CommScope*, No. 1:19-cv-00952-MN (D. Del.). Instead of disclosing the allegations, which would have further provided notice to the examiner that the ‘232 patent family overlapped with another patent family that should be reviewed, the prosecution history evidences that Mr. Lee altered his behavior to hide the allegations of inequitable conduct from the examiner. In the parent application to the application that issued as the ‘232 patent, Dali disclosed some filings from the co-pending district court case involving the same subject matter as the ‘232 patent. *See* Ex. 15 at “Other Publications.” Mr. Lee, however, deviated from that practice by withholding the pleading that made allegations about his inequitable conduct. By deviating from prior practice, Mr. Lee’s conduct evidences selective disclosure, a willingness to breach his duty of candor, and a decision to hide negative information.

Sixth Counterclaim

Declaratory Judgment of Non-Infringement of the ‘499 patent

112. CommScope incorporates by reference the prior allegations.
113. Dali alleges that CommScope infringes the ‘499 patent.
114. CommScope does not infringe and has not infringed any valid claim of the ‘499 patent under any theory of infringement.
115. Accordingly, there exists an actual and justiciable controversy as to whether CommScope infringes any valid claim of the ‘499 patent.

116. CommScope requests a judicial determination and declaration that they do not infringe any valid claim of the ‘499 patent.

Seventh Counterclaim
Declaratory Judgment of Invalidity of the ‘499 patent

117. CommScope incorporates by reference the prior allegations.

118. CommScope asserts that claims of the ‘499 patent are invalid for failure to satisfy one or more of the provisions of Title 35 of the United States Code, including, but not limited to in 35 U.S.C. §§ 101, 102, 103, and 112.

119. Accordingly, there exists an actual and justiciable controversy as to whether the claims of the ‘499 patent are valid.

120. CommScope requests a judicial determination and declaration that the claims of the ‘499 patent are invalid.

Eighth Counterclaim
Declaratory Judgment of Unenforceability of the ‘499 patent

121. CommScope incorporates by reference the prior allegations.

122. As set forth below, Mr. Lee deliberately withheld material information from the Patent Office during the prosecution of the ‘499 patent, including at least the FlexWave Prism system, and did so with a specific intent to deceive the Patent Office. Mr. Lee breached his duty of candor and committed inequitable conduct during the prosecution of the ‘499 patent.

123. CommScope requests a judicial determination and declaration that the ‘499 patent is unenforceable.

The “who” requirement

124. This pleading alleges that Mr. Albert Lee committed inequitable conduct during the prosecution of the ‘499 patent.

125. Mr. Lee is deeply involved with Dali's patents. Mr. Lee has overall responsibility for Dali's patent prosecution strategy. He hires and works with Dali's outside patent prosecution counsel. Mr. Lee is also a named inventor on the '499 patent.

126. Mr. Lee had a duty of candor to the Patent Office during the prosecution of Dali's '499 patent.

127. Upon information and belief, Mr. Lee is also Dali's General Counsel, CEO, and Chairman.

The "what" and "where" requirements

128. This pleading alleges that Mr. Albert Lee withheld material information about the FlexWave Prism system. The FlexWave Prism is a prior art digital distributed antenna system sold by ADC Telecommunication ("ADC"). It was also sold by TE and CommScope. TE acquired ADC in 2010, and CommScope later acquired the relevant ADC business unit from TE in 2015.

A. Mr. Lee's failure to disclose

129. Mr. Lee did not disclose to the examiner of the '499 patent the existence of the FlexWave Prism system.

130. Mr. Lee did not disclose to the examiner of the '499 patent the features or functionality of the FlexWave Prism system.

131. Mr. Lee did not disclose to the examiner any product literature for the FlexWave Prism. For example, Mr. Lee did not disclose to the examiner of the '499 patent Exhibits 19A-19C. Exhibits 19A-C are documents that Dali possessed.

132. Upon information and belief, Mr. Lee did not instruct Dali's prosecuting attorney to disclose the existence of the FlexWave Prism system to the examiner of the '499 patent.

133. Upon information and belief, Mr. Lee did not instruct Dali's prosecuting attorney to disclose the features or functionality of the FlexWave Prism system to the examiner of the '499 patent.

134. Upon information and belief, Mr. Lee did not instruct Dali's prosecuting attorney to disclose any product literature for the FlexWave Prism to the examiner of the '499 patent.

B. The FlexWave Prism is "But-For" Material Prior Art for the '499 patent

135. This section explains the materiality of the FlexWave Prism.

136. The FlexWave Prism is prior art under at least 35 U.S.C. § 102(a)-(b). For example, it was described in printed publications in this country before the alleged invention of the '499 patent. *See, e.g.*, Exs. 19A-19C (bearing a date of 11/2009). Further, it was in public use, described in printed publications, or on sale in this country more than one year before the earliest application date for the '449 patent. *See, e.g.*, Exs. 19A-C (bearing a date of 11/2009).

137. **First**, The FlexWave Prism is but-for material prior art. For example, the attached chart shows the FlexWave Prism discloses each and every element of claim 14 of the '499 patent. *See* Ex. 20. It anticipated Claim 14. It also renders Claim 14 obvious in view of the art of record.

138. **Second**, the FlexWave Prism is but-for material because it disclosed elements allegedly missing from the prior art during prosecution. The examiner's Notice of Allowability contains the following statement that identified two elements allegedly missing from the prior art of record:

However, in consideration of the claim amendments/remarks and the terminal disclaimer filed April 17, 2019, and further search, no prior art reference or a

combination of prior art references disclose or suggest the combination of limitations specified in the independent claims including:

“wherein the baseband unit is configured to send a digital representation of a second set of radio resources to the first remote unit at a second point in time, the second set of radio resources for transmission at the antenna of the first remote unit;” and “wherein a number of radio resources in the first set of radio resources is different from a number of radio resources in the second set of radio resources,” in claim 10.

Claim 18 includes similar limitations.

“transmitting from the baseband unit, at a second point in time, a digital representation of a second set of radio resources to the first remote unit, the second set of radio resources for transmission at the antenna of the first remote unit;” and “wherein a number of radio resources in the first set of radio resources is different from a number of radio resources in the second set of radio resources,” in claim 24.

Ex. 21 at 3-4. Application claim 24 referenced by the examiner above issued as claim 14 of the ‘499 patent. As shown in Exhibit 20, the FlexWave Prism discloses these elements the examiner believed were missing from the prior art. *See* Ex. 20

The “when” requirement

139. This section explains that Mr. Lee knew about the undisclosed material information during the prosecution of the ‘499 patent and had an opportunity to disclose it.

140. The prosecution of the ‘499 patent spanned from August 9, 2018 to June 25, 2019.

141. As explained in greater detail in the section below on intent to deceive, Mr. Lee knew about the FlexWave Prism both before and during the prosecution of the ‘499 patent.

142. Mr. Lee had multiple opportunities to disclose the FlexWave Prism during the prosecution of the ‘499 patent. Dali filed multiple information disclosure statements (IDS) during prosecution.

143. Mr. Lee, however, failed to disclose the FlexWave Prism on any of the IDSs during the prosecution of the ‘499 patent.

The “why” and “how” requirements

144. This section explains how the examiner of the ‘499 patent would have used the information Mr. Lee withheld and why the information was but-for material. A reasonable examiner would have found the FlexWave Prism “but for” material to the patentability the claims of the ‘499 patent, including for example claim 14.

145. If the examiner had been aware of the FlexWave Prism, a reasonable examiner would have rejected claim 14 as anticipated by the FlexWave Prism. *See* Exhibit 20 (showing the FlexWave Prism anticipates claim 14).

146. If the examiner had been aware of the FlexWave Prism, a reasonable examiner would not have issued the notice of allowance because the examiner would have realized the FlexWave Prism disclosed the two elements the examiner believed were missing from the other prior art.

147. The FlexWave Prism is not cumulative of the other prior art disclosed to the Patent Office. To the contrary, in many ways, it is superior prior art. First, the FlexWave Prism disclosed elements allegedly missing from the prior art during prosecution. As described above, the examiner believed two elements were missing from the prior art of record, but the FlexWave Prism disclosed both of those elements. Second, there is a significantly greater volume of information available about the FlexWave Prism compared to the other prior art. *See, e.g.,* Ex. 19A-C (more

than 350 pages of information). Third, the other prior art of record does not disclose the same teaching about configuring the passband bandwidth as the FlexWave Prism.

Intent to Deceive

A. Mr. Lee knew about the FlexWave Prism

148. Mr. Lee knew about the FlexWave Prism.

149. There are multiple facts showing Mr. Lee knew about the FlexWave Prism.

150. **First**, Dali has admitted Mr. Lee was aware of the FlexWave Prism. Ex. 22 at RFA 5 (“Dali ADMITS only that Dr. Lee was ‘aware’ that CommScope advertised a product called the FlexWave Prism.”).

151. **Second**, Mr. Lee has a long history of knowledge of the FlexWave Prism spanning 2009 - present.

152. In 2009, Mr. Lee attempted to have Dali work with ADC on ADC’s FlexWave Prism product. Dali sought to become a power amplifier supplier for use in the FlexWave Prism. Through this project, Mr. Lee was aware of the FlexWave Prism.

153. Between 2010-2012, Mr. Lee oversaw the launch of a product (the Dali T-Series) to compete against the FlexWave Prism. Through this competition, Mr. Lee was aware of the FlexWave Prism.

154. In 2016, Mr. Lee authorized Dali to engage in patent litigation involving the FlexWave Prism. Through this litigation, Mr. Lee was aware of the FlexWave Prism.

155. In summary, Mr. Lee knew about the FlexWave Prism during the prosecution of the ‘499 patent.

B. Mr. Lee knew the FlexWave Prism was prior art

156. Mr. Lee knew the FlexWave Prism was prior art to the ‘499 patent.

157. There are multiple facts showing Mr. Lee knew the FlexWave Prism was prior art to the '499 patent.

158. **First**, Mr. Lee learned of the FlexWave more than one year before Dali filed its provisional patent application to which the '499 claims priority.

159. The '499 claims priority to a provisional patent application filed February 7, 2011. More than one year before February 7, 2011, back in 2009, Mr. Lee attempted to have Dali work with ADC on ADC's FlexWave Prism product. Through this project, Mr. Lee was aware ADC's FlexWave Prism product was prior art to the '499 patent.

160. **Second**, Mr. Lee knew about prior art publications for the FlexWave Prism that pre-dated Dali's '499 patent's priority through Dali's competitive analysis. Dali obtained product literature for the FlexWave Prism. *See, e.g.*, Exs. 19A-19C. This included prior art publications for the FlexWave Prism that pre-dated Dali's '499 patent's priority. For example, Exhibit 19 clearly lists a date of "11/2009" on the front page. Mr. Lee was involved in Dali's competitive analysis. Through his involvement in Dali's competitive analysis of documents clearly dated in the prior art period, upon information and belief, Mr. Lee knew the FlexWave Prism was prior art to the '499 patent.

161. **Third**, Mr. Lee has admitted that ADC, the manufacturer of the FlexWave Prism, was "before" Dali. For example, Mr. Lee publicly testified in a recent trial: "But definitely ADC was before Dali. No doubt about that." Through his knowledge that the manufacture of the FlexWave Prism came "before" Dali, Mr. Lee knew that the FlexWave Prism was prior art to the '499 patent.

C. Mr. Lee knew the FlexWave Prism was material

162. Mr. Lee knew the FlexWave Prism was material prior art to the '499 patent.

163. There are multiple facts showing Mr. Lee knew the FlexWave Prism was material prior art to the ‘499 patent.

164. **First**, upon information and belief, Mr. Lee reviewed and understood the FlexWave Prism System Reference attached as Exhibits 19A-C that showed the FlexWave Prism disclosed the subject matter claimed in the ‘499 patent, including each and every element of claim 1 and including the elements the examiner believed the prior art was missing. Dali obtained Exhibits 19A-C as part of its competitive analysis. Mr. Lee was involved in the competitive analysis, and therefore, was involved in reviewing Exhibits 19A-C. Mr. Lee has a technical degree and purports to be an inventor in the same field as the FlexWave Prism (digital distributed antenna systems); therefore, Mr. Lee was in a position to understand the disclosure in the FlexWave Prism System Reference.

165. **Second**, upon information and belief, Mr. Lee reviewed and understood the specifications for the FlexWave Prism that showed the FlexWave Prism disclosed the elements the examiner believed the prior art was missing. The specifications for the FlexWave Prism are published in documents such as Exhibit 25. Dali obtained multiple copies of the specifications for the FlexWave Prism during its competitive analysis that Mr. Lee participated in. *See, e.g.*, Exs. 26-27; *see also* Ex. 28. The examiner believed the prior art was missing two elements of claim 14: “transmitting from the baseband unit, at a *second point in time*, a *digital* representation of a second set of radio resources to the first remote unit, the second set of radio resources for transmission at the antenna of the first remote unit” and (2) “wherein a *number* of radio resources in the first set of radio resources is *different* from a number of radio resources in the second set of radio resources.” Ex. 21 (emphasis added). As to the first element, for example, the specifications for the FlexWave Prism explains that the system “digitally transports” (i.e., it transmits “digital

representation ...” as recited in the ‘499 patent). Ex. 25 at 4. The specifications repeatedly emphasize that the system is “flexible”, “scalable,” “upgradeable”, and allows “for system configuration” (i.e., it can be configured “at a second point in time” differently). *See* Ex. 25 at 2. As to the second element, for example, the specifications for the FlexWave Prism repeatedly explains that the system is configurable for different numbers of frequency blocks and amounts of bandwidth (i.e., the “number” of radio resources can be “different” as recited in the ‘499 patent):

Specifications

RF SPECIFICATIONS

Supported Frequency Blocks:	1-4 per Remote Unit; 1-8 per Host Unit
Bandwidth:	1.5 to 75 MHz non-contiguous
Frequency Band Supported:	See table below
Digital Simulcast:	Up to 8:1 Single Host (can daisy chain Host for higher simulcast)
Diversity Receive:	Yes (Optional) MIMO: 2x2 and 4x4

Remote Units

The Prism Remote Units utilize a modular design, which supports up to four bands. Each Remote allows for future upgrades and easy field access.

Ex. 25 at 5, 8. This is further shown in Exhibit 20. Thus, upon information and belief, Mr. Lee would have known the FlexWave Prism disclosed the two element the examiner mistakenly believed was missing from the prior art.

166. **Third**, upon information and belief, Mr. Lee would have known the features of the FlexWave Prism from his long history with the FlexWave Prism. By the time of the prosecution of the ‘499 patent, Mr. Lee had interacted with the FlexWave Prism for nearly 10 years as a potential supplier, competitor, and adversary in litigation. Thus, by the time of the prosecution of the ‘499 patent, Mr. Lee would have known the features of the FlexWave Prism.

167. **Fourth**, upon information and belief, Mr. Lee would have known the FlexWave Prism is material due to the substantial overlap in the subject matter between the FlexWave Prism

and the features claimed in the ‘499 patent. The preferred embodiment of the ‘499 patent is a digital DAS. *See, e.g.*, Ex. 24 at 4:25-28 (Detailed Description of the Invention: “The present invention is a novel Reconfigurable *Distributed Antenna System*...”). As a DAS, the disclosed system in the ‘499 patent (and the ‘499 patent claims) includes a plurality of remote units coupled to at least one host or DAU which serves as an interface to an operator’s base station. Likewise, Dali has admitted Mr. Lee was aware the FlexWave Prism was advertised as a “digital DAS.” *See, e.g.*, Ex. 22 at RFA 6. The ‘499 patent describes that the purported “present invention” relates to a feature called “Flexible Simulcast.” Ex. 24 at Abstract; 3:16-17. Likewise, Dali has admitted Mr. Lee was aware the FlexWave Prism was advertised to “perform simulcast,” and the product literature repeatedly states the FlexWave Prism is “flexible.” *See, e.g.*, Ex. 23 at RFA 20; Ex. 25 at 2 (“Flexible Architecture”); Ex. 25 at 7 (“Set up simulcast ratios”). The ‘499 patent describes its DAS as “field reconfigurable,” “modulation-independent,” “multi-frequency bands.” Ex. 24 at Abstract. Likewise, the FlexWave Prism was “Field upgradeable,” “Air Interface and BTS vendor independent,” and “Supports multiple frequency bands.” Ex. 25 at 2.

168. **Fifth**, Mr. Lee has familiarity with the rules for materiality. Mr. Lee is a registered patent agent. Further, Dali has admitted that Mr. Lee “understood the meaning of the duty of candor and good faith that is due to the USPTO during the prosecution of patent applications.” Ex. 16 at 10. The MPEP explains that the duty of candor includes the duty to disclose information from competitors:

Individuals covered by 37 CFR 1.56 may be or become aware of material information from various sources such as, for example, co-workers, trade shows, communications from or with *competitors*, potential infringers, or other third parties, related foreign applications (see MPEP § 2001.06(a)), prior or copending United States patent applications (see MPEP § 2001.06(b)), related litigation and/or post-grant proceedings (see MPEP § 2001.06(c)) and preliminary examination searches.

MPEP 2001.06 (emphasis added).

D. Mr. Lee knew he had an obligation to disclose material information

169. Dali has admitted that Mr. Lee “understood the meaning of the duty of candor and good faith that is due to the USPTO during the prosecution of patent applications.” Ex. 16 at RFA 8.

170. The duty of candor and good faith includes the duty to disclose “all information” known to that individual to be material to patentability as defined in this section. 37 C.F.R. § 1.56 provides:

Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section.

37 C.F.R. § 1.56.

171. Therefore, considering Dali has admitted Mr. Lee understood the meaning of the duty of candor, Mr. Lee knew he had a duty to disclose “all information” that was material to the patentability of the claims of the ‘499 patent.

E. Mr. Lee intended to deceive the Patent Office

172. The single most reasonable inference from the above facts is that Mr. Lee intended to deceive the Patent Office.

173. As set forth above, Mr. Lee (a) knew about the FlexWave Prism, (b) knew the FlexWave Prism was prior art, (c) knew the FlexWave Prism was material, and (d) knew he had a duty to disclose all material information, including the FlexWave Prism, and (e) knew that failure to disclose known material information is a breach of the duty of candor to the Patent Office.

174. Despite his full knowledge, Mr. Lee did not disclose the FlexWave Prism. The single most reasonable inference from Mr. Lee’s full knowledge of the facts is that Mr. Lee intended to deceive the Patent Office.

175. There are a number of facts that further show the inference of deceptive intent is particularly reasonable.

176. **First**, Mr. Lee was specifically being reminded of the FlexWave Prism during the prosecution of the '499 patent. Dali and Mr. Lee were participating in litigation involving the FlexWave Prism during the same period of time as the prosecution of the '499 patent. Mr. Lee had ample opportunity to heed this reminder and disclose the FlexWave Prism, including multiple information disclosure statements. Yet, Mr. Lee did not disclose the FlexWave Prism despite knowing the FlexWave Prism was material prior art.

177. **Second**, the inference of deceptive intent is particularly reasonable because Mr. Lee is a sophisticated and experienced actor who is intimately familiar with the expectation to disclose material information to the Patent Office. Mr. Lee (a) is an attorney, registered patent agent, and inventor and (b) has supervised the prosecution of patent applications. As such, he is a sophisticated and experienced actor. He is also intimately familiar with the expectation to disclose material information to the Patent Office. As a registered patent agent, Mr. Lee has studied the duty of candor. As an inventor and supervisor of patent prosecution, he has had frequent experience with the duty of candor. And, Dali has specifically admitted that Mr. Lee “understood the meaning of the duty of candor and good faith that is due to the USPTO during the prosecution of patent applications.” Ex. 16 at 10.

178. **Third**, the inference of deceptive intent is also corroborated by Mr. Lee’s long history of willful misconduct. A jury recently determined that Dali willfully infringed multiple digital DAS patents owned by CommScope and used by the FlexWave Prism product. Mr. Lee appeared as Dali’s representative and testified at this trial. Mr. Lee publicly testified that “every single vendor” Dali interacted with raised the issue of ADC’s (later TE’s) patent portfolio on

digital DAS technology. Despite these warning, Dali under the direction of Mr. Lee willfully infringed the patents. Mr. Lee's conduct demonstrates both a lack of regard for the patent system and a willingness to engage in willful misconduct.

Prayer for Relief

CommScope prays for the following relief. Dali "patents-in-suit" refers to the patents asserted against CommScope.

- A. Dali's asserted causes of action be dismissed with prejudice and Dali take nothing;
- B. A judgment and order in favor of CommScope on Dali's asserted causes of action;
- C. A judgment and order declaring that the claims of the Dali patents-in-suit are invalid;
- D. A judgment and order declaring that CommScope has not and does not infringe the claims of patents-in-suit and a judgment and order declaring that CommScope has not and does not infringes the claims of the patents-in-suit;
- E. A judgment and order declaring that the '232 and '499 patents are unenforceable;
- F. A judgment and order requiring Dali to pay all costs, including all disbursements and attorney fees, if this case is found to be exceptional as provided by 35 U.S.C. §285; and
- G. Such other and further relief that this Court may deem just and equitable.

Demand for a Jury Trial

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, CommScope demands a trial by jury of all issues so triable whether as to Dali's claims, CommScope's defenses, or CommScope's counterclaims.

Dated: April 6, 2022

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned counsel hereby certifies that on April 6, 2022, a true and correct copy of the foregoing response was served on all counsel of record who have appeared in this case via the Court's CM/ECF system per Local Rule CV-5.

/s/ Eric H. Findlay
Eric H. Findlay